

CLAIMS

What is claimed is:

1. A method for providing warnings to a user of a system upon detection of a warning condition, comprising:
capturing an image of at least a portion of a system;
processing the captured image in real time for determining if the warning condition exists; and
providing a warning to the user when the warning condition is determined to exist.
2. The method as claimed in claim 1, wherein processing of the captured image comprises comparing the captured image with a reference.
3. The method as claimed in claim 1, further comprising displaying the image to the user.
4. The method as claimed in claim 1, further comprising
querying the user to determine if the image should be displayed; and
displaying the image to the user if the user wishes the image to be displayed.
5. The method as claimed in claim 1, wherein processing of the captured image comprises at least one of processing a fusion of at least two images received from two image capture devices and processing a fusion of an image and a measured parameter.

6. The method as claimed in claim 1, wherein the captured image is comprised of at least one of a continuous video and sampled frames of a continuous video.

7. The method as claimed in claim 1, further comprising monitoring a second warning system that detects if the warning condition exists; and

determining whether the second warning system detects the warning condition.

8. The method as claimed in claim 7, wherein the captured image comprises at least one of an optical image, an infrared image, an ultra-violet image, and an image formed using a non-visible wavelength of electromagnetic radiation.

9. An apparatus for providing warnings to a user of a system upon detection of a warning condition within the system, comprising:

at least one image capture device for monitoring at least a portion of the system, said image capture device being capable of capturing an image of the portion of the system being monitored;

an image processing assembly for processing the image captured by the image capture device; and

a warning device for providing a warning to the user;

wherein the image processing assembly processes the image captured by the image capture device in real time for determining if the warning condition exists and upon determining that the warning condition exists causes the warning device to provide a warning to the user.

10. The apparatus as claimed in claim 9, wherein said warning device comprises a display displaying the image captured by the image capture device to the user.

11. The apparatus as claimed in claim 9, wherein the image processing assembly includes a memory for storing a reference of the portion of the system being monitored by the image capture device.

12. The apparatus as claimed in claim 9, wherein said image processing assembly processes the image captured by the image processing device by comparing the captured image with the reference.

13. The apparatus as claimed in claim 9, wherein said at least one image capture device comprises a video camera and wherein said captured image is comprised of at least one of a continuous video and sampled frames of a continuous video.

14. The apparatus as claimed in claim 9, wherein said image processing assembly monitors a second warning system capable of detecting if the warning condition exists, said image processing assembly determining whether the second warning system detects the warning condition.

15. The apparatus as claimed in claim 9, wherein the system comprises an aircraft, the portion of the system being monitored comprises a landing gear and the warning condition comprises improper deployment of the landing gear.

16. The apparatus as claimed in claim 9, wherein the system comprises an aircraft, the portion of the system being monitored comprises a landing gear and the warning condition comprises an abnormal tire condition.

17. The apparatus as claimed in claim 9, wherein the system comprises an aircraft, the portion of the system being monitored comprises a wing surface and the warning condition comprises surface irregularities.

18. The apparatus as claimed in claim 9, wherein the system comprises an aircraft, the portion of the system being monitored comprises an engine bay and the warning condition comprises engine compartment irregularities.

20. An apparatus for providing warnings to a user of a system, comprising:

means for processing the captured image; and

wherein the processing means processes the captured image for determining if a warning to the user is warranted by comparing the captured image to a reference, and upon determining that a warning is warranted causes the warning means to provide a warning to the user.